

Amendments to the Specification:

Please replace the paragraph beginning at page 3, line 2, with the following redlined paragraph:

However, when light propagates through the optical waveguide separated by the groove, loss occurs that is caused mainly by diffraction in the separated region. Fig.1 is a diagram for explaining this loss, and schematically shows the state of light propagating from an optical waveguide 41 consisting of a core 41a and a cladding 41b across a gap to an optical waveguide 42 consisting of a core 42a and a cladding 42b, wherein Fig.1 (a) shows the case of a small core size and Fig.1 (b) shows the case of large core size. As shown in Fig.1 (a) and Fig.1 (b), since the light outputting from the optical waveguide spreads owing to diffraction, diffraction loss increases as the gap "d" becomes larger. On the other hand, as can be seen from a comparison of Fig.1 (a) and Fig 1 (b), since the diffraction becomes very pronounced as the beam-spot 40 becomes smaller, it is necessary to make the gap width narrow and enlarge the diameter of beam spot in order to reduce diffraction loss.

Please replace the paragraph beginning at page 13, line 23, with the following redlined paragraph:

Fig.2(a) and Fig. 2(b) are is-a-views showing a waveguide-embedded optical circuit 10 that is a preferred embodiment of the present invention. Fig.1-2 (a) is a schematic top view and Fig.1-2 (b) is a schematic side view.

Please replace the paragraph beginning at page 16, line 7, with the following redlined paragraph:

The lower cladding layer 102-1 and upper cladding layer 103-1 serve as a "first cladding" of the embedded optical waveguide 21 and also as a "second core.". The lower cladding layer 102-2 and upper cladding layer 103-2 serve as the "first cladding" and of the embedded optical waveguide 22 and also as a "second core.". The material of the lower cladding layers 102-1 and 102-2 and the upper cladding layers 103-1 and 103-2 is not particularly limited insofar as the refractive indexes of the cladding layers are lower than the refractive index of the

core region 104 but silica glass or polymer is preferably used as the material of the substrate ~~101~~
11 and the core region 104.

Please replace the paragraph beginning at page 19, line 6, with the following redlined paragraph:

As shown in Fig.6 and Fig.7, the width (length of the up and down direction in Fig.6) and the height (length of the up and down direction in Fig.7) of the laminated body composed of the lower cladding layer 102-1 and the upper cladding layer 103-1, i.e., the first cladding and the second core of the embedded optical waveguide 21, is substantially constant in the section from the end of face the waveguide-embedded optical circuit 10 to the groove 13. The same is true of the laminated body composed of the lower cladding layer 102-2 and the ~~lower upper~~ cladding layer 103-2.

Please replace the paragraph beginning at page 24, line 15, with the following redlined paragraph:

As shown in Fig.16, defining the formation angle of the groove 13 (the angle between a plane perpendicular to the direction of propagation of the incident light η_0 through the embedded optical waveguide 21 and the inner wall of the groove 13) as θ_g , and the insertion angle of a Faraday rotator 31 (the angle between the plane perpendicular to the direction of propagation of the incident light η_0 through the embedded optical waveguide 21 and the surface of the Faraday rotator 31) as θ_f , it is preferable to set the angles so that $\theta_g \neq 0$ degree and $\theta_f \neq 0$ degree. Thus, if the formation angle θ_g of the groove 13 is set so that $\theta_g \neq 0$, most of reflective light η_g produced at the surface of the optical adhesives 14 does not return to the embedded optical waveguide 21 and if the insertion angle θ_f of the Faraday rotator 31 is set so that $\theta_f \neq 0$, most of reflective light η_f produced at the surface of the Faraday rotator 31 or the polarizer 32 does not return to the embedded optical waveguide 21.

Please replace the paragraph beginning at page 29, line 14, with the following redlined paragraph:

When the so-configured optical isolator element 70 is inserted in the groove 13 of the waveguide-embedded optical circuit 10 and a magnetic field is applied, then, as shown in Fig.22 and Figs.23 (a) – 23 (b), either the right half or the ~~right-left~~ half of the beam spot S of the light outputting the embedded optical waveguide 21 passes through the associated birefringent element 72 and the other half passes through the associated birefringent element 73. The light passing through the birefringent elements 72, 73 is rotated by 45 degrees by passing through the Faraday rotator 71 and then passes through the birefringent elements 74, 75. In this case, since the optical path length of light passing the birefringent elements 72, 74 and the optical path length of light passing the birefringent element 73, 75 are equal, the shape of the light passing through the optical isolator element 70 becomes the same as the shape of the light outputting the embedded optical waveguide 21. As a result, the light outputting the embedded optical waveguide 21 couples with the embedded optical waveguide 22. As regards the light outputting from the side of embedded waveguide 22, on the other hand, since the optical path length of the light passing through the birefringent elements 72, 74 is different from the optical path length of the light passing through the birefringent elements 73, 75. The light outputting the embedded optical waveguide 22 therefore does not couple with the embedded optical waveguide 21.

Please replace the paragraph beginning at page 35, line 3, with the following redlined paragraph:

As shown in Fig.27, the waveguide-embedded optical circuit 90 of this embodiment comprises a substrate (not shown), a waveguide layer 92 provided on the substrate and an optical isolator element 110 inserted in a groove 93 provided in the waveguide ~~44212~~. The waveguide layer 92 is formed with multiple circulators 120 (~~five-four~~ in the embodiment illustrated in Fig.27) each comprising embedded optical waveguides 201-208. The groove 93 is inclined and serves to separate the embedded optical waveguides 203 from the embedded optical waveguides 207 and the embedded optical waveguides 204 from the embedded optical waveguides 208. The groove 93 is preferably given the narrowest width capable of accommodating the optical isolator element 110. Moreover, the optical isolator element 110 is fixed in the groove by optical adhesive (not shown) filled in the groove 93.